

embodiment, where the light reactive agent **14** is LS11, at least one of the wavelengths is 664 nm. Where the light reactive agent **14** is verteporfin, at least one of the wavelengths is 689 nm. In this arrangement, the control circuit **30** may comprise a printed circuit board on which the LED's are mounted.

[0059] As FIG. 2 shows, the various components of the system **10** as just described can be consolidated for use in a functional kit **44**. The kit **44** can take various forms. In the illustrated embodiment, the kit **44** comprises a sterile, wrapped assembly including an interior tray **46** made, e.g., from die cut cardboard, plastic sheet, or thermo-formed plastic material, which hold the contents. The kit **44** also preferably includes directions **48** for using the contents of the kit **44** to carry out a desired procedure.

[0060] In the illustrated embodiment, every component of the system **10** is contained within the kit **44**. Of course, various components can be provided in separate packaging. In this arrangement, the directions **48** still instruct use of the various components separately provided as a system **10**.

[0061] The directions **48** can, of course vary. The directions may be physically present in the kit **44**, but can also be supplied separately. The directions **48** can be embodied in separate instruction manuals, or in video or audio tapes, CD's, and DVD's. The instructions for use can also be available through an internet web page. The directions **48** instruct the practitioner how to use the system **10** to carry out the intended therapeutic treatment. The directions **48** incorporate a method of treatment using the system **10**.

[0062] FIGS. 4 to 14 show a representative method of using the system **10** shown in FIG. 1 to treat a vascular condition such as spider veins, which the directions **48** can express in part or in its entirety. As FIG. 4 shows, the method identifies a site where the targeted condition exists, i.e., where the spider veins are present. This site is called the targeted treatment site **50**. The spider veins are usually easily identifiable by a trained practitioner. They are often red or blue and close to the surface of the skin. They possess branches or "spider webs" with short jagged lines. Spider veins can be found on the legs and face. They can cover either a very small or very large area of skin.

[0063] In the illustrated embodiment, the light reactive agent **14** is to be administered intravenously. In this arrangement, an appropriate injection site **52** is identified, as shown in FIG. 5. The injection site **52** is where a selected light reactive agent **14** will administered intravenously by the system **10** for delivery to the targeted treatment site **50**. Desirably, the injection site **52** offers venous access at a distance from the targeted treatment site **50** in an upstream blood flow direction (i.e., the injection site **52** is farther from the heart than the treatment site **50**). In this manner, the light reactive agent **14**, when injected intravenously, is allowed to become systemic and will be conveyed by venous blood flow toward the heart to the targeted treatment site **50**.

[0064] As FIG. 6 shows, the method prepares the light reactive agent **14** for introduction. In the illustrated embodiment, prescribed volume of the light reactive agent **14** is drawn into the syringe **18**. The volume to be injected in dependent upon the therapeutic dose that is prescribed, which is, in turn, dependent upon the concentration of the light reactive agent **14** in solution, as well as the morphology of the targeted treatment site **50**.

[0065] Typically, VISUDYNE® material is commercially reconstituted in saline or glucose solution at desired concentration of about verteporfin 2 mg/mL. At this concentration, a typical dose for a spider vein region can be in the order of 1 cc to 5 cc, but this dosage will of course depend upon the physiology of the individual, including the size and depth of the target treatment site **50**, the skin type of the individual, and the body size of the individual. The dosage can be determined by clinical study by physical measurements and titration, or can be selected empirically based upon general anatomic considerations, or a combination of these and other considerations.

[0066] As FIG. 7 shows, the method injects the light reactive agent **14** intravenously at the injection site **52**. In the illustrated embodiment, the syringe **18** needle injects directly into a vein. An IV catheter may be used, through which the light reactive agent **14** is injected by syringe or other suitable IV pumping device.

[0067] The rate of delivery is dependent upon the nature and dosage of the light reactive agent **14** as well as the physiology of the individual being treated. It is desirable to avoid discomfort to the individual, and the rate of delivery selected has this as its primary objective.

[0068] It is believed that, given the concentration and volume of the VISUDYNE® material being injected in the illustrated embodiment, an injection period of 20 to 30 seconds is acceptable.

[0069] A period of time desirably occurs after injection (as the clocks C in FIGS. 7 and 8 indicate), to allow the light reactive agent **14** to become systemic. As FIG. 9 shows, verteporfin V, once injected, attaches to lipoproteins LP in the plasma. The lipoproteins LP carry the verteporfin V to the targeted treatment site **50**, as FIG. 10 shows. This exposes endothelium of the spider veins to the verteporfin V carried by the lipoproteins LP.

[0070] The optimal time period to allow systemic distribution of the light reactive agent **14** in this manner to the targeted treatment site **50** following injection can be determined by clinical study by physical measurements, or can be selected empirically based upon general anatomic considerations, or a combination of these and other considerations.

[0071] As FIG. 11 shows, after allowing a selected time period after injection to pass, the method operates the photoactivation device **20** to apply light having prescribed characteristics to the targeted treatment site **50**. These prescribed characteristics include the wavelength and may also include, but are not necessarily limited to, a desired intensity, a desired spot size, and a desired duration of exposure. The wavelength will depend upon the light reactive agent **14** selected. The intensity, spot size, and duration of exposure of the applied light will depend upon the physiology of the individual being treated and the operating parameters of the system **10**, e.g., upon the size of the treatment site **50**; the depth of the treatment site **50**; the skin type of the individual; the body size of the individual; the distance between the light transmitting end **28** of the housing **24** and the skin surface; the time of exposure; and the pattern of applying the light. Optimal operating characteristics for the photoactivation device **20** can be determined by clinical study by physical measurements, or can be selected empirically based upon general anatomic considerations, or a combination of